Aviation Investigation Final Report

Location:	Bay Minette, Alabama	**Accident Number:**	ERA12LA505
Date & Time:	August 12, 2012, 20:45 Local	**Registration:**	N9216D
Aircraft:	Piper PA-22-160	**Aircraft Damage:**	Substantial
Defining Event:	Flight control sys malf/fail	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The student pilot performed seven uneventful full-stop landings; however, during the takeoff that preceded the accident, he felt something abnormal from the tailwheel. During the subsequent landing, the airplane began to drift to the left and could not be controlled with the appropriate brake and rudder inputs. The airplane departed the left side of the runway, and the empennage was substantially damaged when it struck a precision approach path indicator light. Postaccident examination of the airplane revealed that the linkage that attached the tailwheel to the rudder was not attached. The airplane had been operated for about 3 hours since its most recent annual inspection, which was performed about 3 weeks before the accident. In addition, the airplane was converted from a tricycle to tailwheel configuration and had undergone a complete restoration during the previous 2 years. The tailwheel linkage was not located, and its preaccident condition could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The separation of the tailwheel linkage for reasons that could not be determined because the linkage was not located, which resulted in a loss of directional control during landing.

Findings

Aircraft	Nose/tail gear attach section - Failure
Not determined	(general) - Unknown/Not determined
Aircraft	Directional control - Attain/maintain not possible

Factual Information

History of Flight

Landing-landing roll	Flight control sys malf/fail (Defining event)
Landing-landing roll	Loss of control on ground
Landing-landing roll	Runway excursion
Landing-landing roll	Collision with terr/obj (non-CFIT)

On August 12, 2012, about 2045 central daylight time, a Piper PA-22-160, N9216D, operated by a private individual, was substantially damaged while landing at the Bay Minette Municipal Airport, Bay Minette (1R8), Alabama. The flight instructor and student pilot were not injured. Visual meteorological conditions prevailed and no flight plan had been filed for the instructional flight that was conducted under the provisions of 14 Code of Federal Regulations Part 91.

According to the flight instructor, the student pilot performed seven uneventful full-stop landings; however, during the takeoff that preceded the accident, he felt "something" abnormal from the tailwheel. During the subsequent landing, the airplane began to drift to the left, and could not be controlled with the appropriate brake and rudder inputs. The airplane departed the left side of the runway and the empennage struck a precision approach path indicator light. The elevator, rudder, and right stabilizer sustained substantial damage.

According to a Federal Aviation Administration inspector, postaccident examination of the airplane revealed that the linkage that attached the tailwheel to the rudder was not attached and could not be found.

According to maintenance records, at the time of the accident, the airplane had been operated for about 3,110 total hours and 3 hours since its most recent annual inspection, which was performed about 3 weeks prior to the accident. In addition, the airplane was manufactured in 1958, converted from a tricycle to tailwheel configuration in 1986, and had undergone a complete restoration during the previous 2 years.

Flight instructor Information

Certificate:	Airline transport; Commercial; Flight engineer; Flight instructor	**Age:**	60,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land; Multi-engine sea	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	May 1, 2012
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 5, 2012
Flight Time:	18520 hours (Total, all aircraft), 31 hours (Total, this make and model), 5900 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Pilot Information

Certificate:	Student	**Age:**	51,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	August 29, 2011
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	96 hours (Total, all aircraft), 96 hours (Total, this make and model), 51 hours (Pilot In Command, all aircraft), 19 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N9216D
Model/Series:	PA-22-160	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	22-6276
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	July 30, 2012 Annual	**Certified Max Gross Wt.:**	2000 lbs
Time Since Last Inspection:	3 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3110 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-360
Registered Owner:	Jose Martinez	**Rated Power:**	180 Horsepower
Operator:	Jose Martinez	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	BFM,26 ft msl	**Distance from Accident Site:**	20 Nautical Miles
Observation Time:	08:53 Local	**Direction from Accident Site:**	220°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	0 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.02 inches Hg	**Temperature/Dew Point:**	26°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Foley, AL (5R4)	**Type of Flight Plan Filed:**	None
Destination:	Bay Minette, AL (1R8)	**Type of Clearance:**	None
Departure Time:	20:10 Local	**Type of Airspace:**	

Airport Information

Airport:	Bay Minette 1R8	**Runway Surface Type:**	
Airport Elevation:	248 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	26	**IFR Approach:**	None
Runway Length/Width:	5500 ft / 79 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	30.870277,-87.819168(est)

Administrative Information

Investigator In Charge (IIC):	Schiada, Luke
Additional Participating Persons:	Tim C Hayes; FAA/FSDO; Vestavia Hills, AL
Original Publish Date:	August 13, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=84659